

REMARKS

Claims 1-6, 14, 20, 21, 23, 25-32 and 42-48 are pending. In the Office Action dated July 18, 2008 the Examiner rejected claims 1-6, 14, 20, 21, 23, 25-32 and 42-48 under 35 U.S.C. 101 because the claimed invention was directed to non-statutory subject matter. The Examiner further rejected claims 42-48 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claims 23, 25-32, and 42-48 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. Claims 1, 14, 20 and 42-48 are rejected under 35 U.S.C. 102(e) as being anticipated by the Leather patent. Claims 23 and 25-32 were rejected under 35 U.S.C. 102(e) as being anticipated by the Deering Patent. Claims 42-48 were rejected under 35 U.S.C. 102(e) as being anticipated by the Sato patent.

Claims 42-48 have been cancelled by amendment thereby rendering the Examiner's rejection of these claims moot. Claims 42-48 have been cancelled to focus on the remaining claims, and should not be interpreted as tacitly acknowledging the merits of the Examiner's rejection of these claims.

With respect to the Examiner's rejection of claims 1-6, 14, 20, 21, 23, and 25-32 under 35 U.S.C. 101, claims 1, 14, 23, and 27 have been amended to be directed to statutory subject matter. The rejection of these claims under 35 U.S.C. 101 should be withdrawn.

With respect to the Examiner's rejection of claims 23 and 25-32, claims 23 and 27 have been amended to overcome the rejection. Consequently, the rejection of these claims under 35 U.S.C. 112, second paragraph, should be withdrawn.

As previously mentioned, claims 1, 14, 20, and 42-48 have been rejected under 35 U.S.C. 102(e) as being anticipated by the Leather patent.

Claim 1 is patentably distinct from the Leather patent. The Leather patent fails to disclose the combination of limitations recited by claim 1. For example, the Leather patent fails to disclose a computer-readable medium having processor-executable instructions, which when executed by a processor, perform a method for calculating values for pixels of an image including, among other things, calculating less than three sample values for pixels of an image in accordance with a sampling pattern for each pixel, the sampling pattern for consecutive pixels alternating between a first and a second sampling pattern, each sampling pattern defining one or

more sampling locations at which sample values are calculated and the second sampling pattern corresponds to the first sampling pattern rotated 90 degrees, the sampling locations being relative to a pixel.

The Examiner argues that description at col. 7, lines 19-25 and 60-65, and Figure 9 disclose these limitations. See the Office Action at page 2. The material at col. 7, lines 19-25 describes use of a mask to “enable/disable” samples corresponding to “such locations,” the locations recited at col. 7, lines 16-18 being “three sample locations.” The material at col. 7, lines 60-65 describes filtering each pixels by blending seven samples from three vertically arranged pixels. In particular, three samples are taken from a current pixel, and two samples are taken from a pixel immediately above and below the current pixel. As described in the cited material, three sample locations are used for a pixel in the filtering process. In contrast, claim 1 recites “calculating less than three sample values for pixels of an image in accordance with a sampling pattern for each pixel.” Three samples, as described in the Leather patent, is not “less than three sample values” as recited in claim 1.

Claim 14 is patentably distinct from the Leather patent. Claim 14 recites a computer-readable medium having processor-executable instructions, which when executed by a processor, perform a method for generating an image having pixels arranged in rows and columns parallel to first and second perpendicular axes, respectively, the method including calculating two sample values per pixel of the image in accordance with a plurality of sampling patterns, one sampling pattern per pixel, one pair of sampling points per sampling pattern, a first sampling pattern defines two sample positions symmetrically located relative to a center of a given pixel on opposite sides of a line parallel to a first axis of the image and dividing the respective pixel in half, and a second sampling pattern defines two sample positions symmetrically located relative to a center of a given pixel on opposite sides of a line parallel to a second axis of the image and dividing the respective pixel in half, the second sampling pattern substantially corresponding to the first sampling pattern rotated 90 degrees.

The Leather patent fails to disclose the combination of limitations recited by claim 14. For example, the Leather patent fails to disclose calculating two sample values per pixel of the image in accordance with a plurality of sampling patterns. As previously discussed with respect to claim 1, the Leather patent describes taking three samples from a current pixel for

a filtering process. See col. 7, lines 60-63. Moreover, the Leather patent fails to disclose a first sampling pattern defines two sample positions symmetrically located relative to a center of a given pixel on opposite sides of a line parallel to a first axis of the image and dividing the respective pixel in half, and a second sampling pattern defines two sample positions symmetrically located relative to a center of a given pixel on opposite sides of a line parallel to a second axis of the image and dividing the respective pixel in half, the second sampling pattern substantially corresponding to the first sampling pattern rotated 90 degrees. The Examiner cites Figure 9 as disclosing these limitations. See the office action at page 15.

Figure 9 illustrates a 2x2 matrix of pixels where each pixel is divided into a 12x12 subpixel grid. Three sample locations are positioned according to the subpixel grid. None of the three sample locations for a pixel shown in Figure 9 are positioned as recited in claim 14. For example, none of the three sample locations are two sample positions symmetrically located relative to a center of a given pixel on opposite sides of a line parallel to a first axis of the image and dividing the respective pixel in half. Moreover, none of the three sample locations for any of the other pixels illustrated in Figure 9 are two sample positions symmetrically located relative to a center of a given pixel on opposite sides of a line parallel to a second axis of the image and dividing the respective pixel in half, the second sampling pattern substantially corresponding to the first sampling pattern rotated 90 degrees.

For the foregoing reasons, claims 1 and 14 are patentably distinct from the Leather patent. Claim 20 is similarly patentable based on at least their dependency from allowable claim 14. Therefore, the Examiner's rejection of claims 1, 14, and 20 under 35 U.S.C. 102(e) should be withdrawn.

As previously mentioned, the Examiner rejected claims 23 and 25-32 under 35 U.S.C. 102(e) as being anticipated by the Deering patent.

Claim 23 is patentably distinct from the Deering patent. Claim 23 recites a computer-readable medium having processor-executable instructions, which when executed by a processor, perform a method for calculating values for pixels of an image having the pixels arranged in rows and columns parallel to first and second perpendicular axes, respectively, the method including calculating sample values for pixels of the image in accordance with a plurality of sampling rates, the sampling rate defined by the number of samples per pixel and at least one

sample per pixel, the sampling rate differing for at least two pixels of the image and alternating per pixel for consecutive pixels along lines parallel to one or the other axes of the image for at least some of the horizontal or vertical lines of pixels of the image, the at least two pixels having the differing sampling rates belonging to a sampling rate set and the sampling rate set repeated for the pixels along the horizontal or vertical lines.

The Deering patent fails to disclose the combination of limitations recited by claim 23. For example, the Deering patent fails to disclose the sampling rate differing for at least two pixels of the image and alternating per pixel for consecutive pixels along lines parallel to one or the other axes of the image for at least some of the horizontal or vertical lines of pixels of the image, the at least two pixels having the differing sampling rates belonging to a sampling rate set and the sampling rate set repeated for the pixels along the horizontal or vertical lines. The Examiner relies on Figure 5A and the related description for disclosing the limitations. Figure 5A is described in the Deering patent as illustrating super-sampling of a 3x3 array of pixels. See col. 14, line 66-col. 15, line 10. A filtering process is used to provide a final value for an output pixel based on multiple samples taken for a pixel. See col. 15, lines 11-20. Neither Figure 5A or the related description discloses sampling rates that alternate per pixel for consecutive pixels along lines parallel to one or the other axes of the image for at least some of the horizontal or vertical lines of pixels of the image. The pixels along a vertical (relative to the label "FIG. 5A") arrangement of pixels have constant sampling rates. The pixels along a horizontal arrangement of pixels change from the first and second pixels (along the row), but remains constant from the second to third pixel. Thus, the sampling rate for consecutive pixels along a row, as illustrated by Figure 5A, remains the same. Moreover, the Deering patent fails to disclose the pixels having the differing sampling rates belonging to a sampling rate set and the sampling rate set repeated for the pixels along the horizontal or vertical lines. The sampling rate set for the pixels illustrated in Figure 5A are the first and second pixels of a row. The third pixel, however, fails to repeat the sampling rate set (of the first and second pixels) along the row, as recited in claim 23.

Claim 27 is also patentably distinct from the Deering patent. Claim 27 recites a computer-readable medium having processor-executable instructions, which when executed by a processor, perform a method for calculating values for pixels of an image having the pixels arranged in rows and columns parallel to first and second perpendicular axes, respectively, the

method including, among other things, calculating sample values for pixels of the image in accordance with first and second sampling rates, the sampling rate defined by the number of samples per pixel and at least one sample per pixel, the sampling rate remaining constant for consecutive pixels arranged along any one given line parallel to the first axis and varying between the first and second sampling rates for consecutive pixels arranged along any one given line parallel to the second axis.

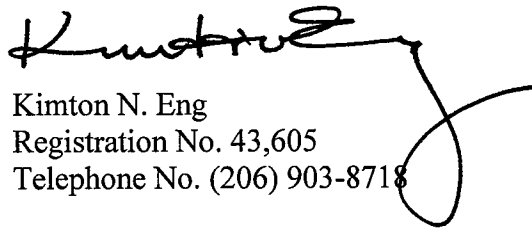
The Deering patent fails to disclose the combination of limitations recited by claim 27. For example, the Deering patent fails to disclose at least the sampling rate remaining constant for consecutive pixels arranged along any one given line parallel to the first axis and varying between the first and second sampling rates for consecutive pixels arranged along any one given line parallel to the second axis. The Examiner relies on Figure 5A and the related description as disclosing the limitation. Neither Figure 5A nor the related description discloses variation of sampling rates along the first and second axes as recited in the claim. In particular, the sampling rate disclosed in material cited by the Examiner does not vary between first and second sampling rates for consecutive pixels arranged along the second axis. It is assumed that a constant sampling rate is illustrated in Figure 5A by pixels along any of the vertically (relative to the label "FIG. 5A") arranged pixels. However, the horizontally arranged pixels do not exhibit varying between the first and second sampling rates for consecutive pixels. Starting from the left most column of pixels in Figure 5A, the sampling rate is one sample/pixel, then two samples/pixel, and then two samples/pixel. The sampling rate between the second and third pixels of a row does not vary, as recited in claim 27.

For the foregoing reasons, claims 23 and 27 are patentably distinct from the Deering patent. Claims 25, 26, and 28-32 are similarly patentably distinct from the Deering patent based on at least their dependency from allowable base claim 23 or 27. Therefore, the Examiner's rejection of claims 23 and 25-32 under 35 U.S.C. 102(e) should be withdrawn.

All claims are in condition for allowance. Favorable consideration and a timely Notice of Allowance are earnestly solicited.

Respectfully submitted,

DORSEY & WHITNEY LLP



Kimton N. Eng
Registration No. 43,605
Telephone No. (206) 903-8718

KNE:alb

DORSEY & WHITNEY LLP
1420 Fifth Avenue, Suite 3400
Seattle, WA 98101-4010
(206) 903-8800 (telephone)
(206) 903-8820 (fax)

h:\ip\clients\rendition\500891.01\500891.01 oa amendment 071808.doc